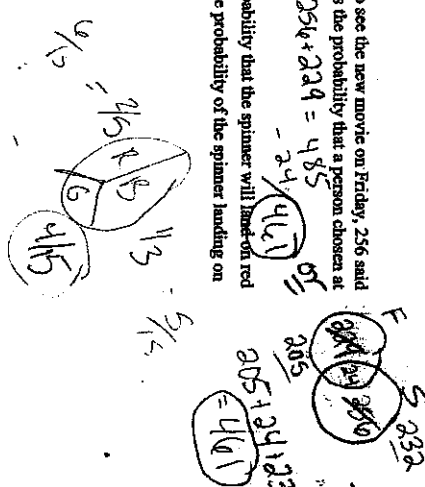


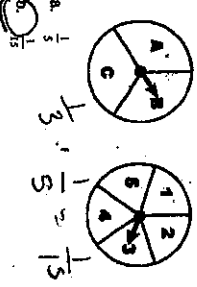
Honors Math II Probability Unit Review

Multiple Choice
Identify the choice that best completes the statement or answers the question.

- A bag contains four ribbons for a spirit rally. The bag contains 5 black ribbons and 7 green ribbons. Lila selects a ribbon at random, then Jessica selects a ribbon at random from the remaining ribbons. Find the probability that both events, A and B, occur. Express your answer as a fraction in simplest form.
Event A: Lila selects a black ribbon.
Event B: Jessica selects a green ribbon.
a. $\frac{7}{12}$ b. $\frac{35}{144}$ c. $\frac{35}{132}$ d. $\frac{5}{12}$
 $5/12 \cdot 7/11 = \frac{35}{132}$
- A bag contains orange, white, and purple marbles. If you randomly choose a marble from the bag, there is a 17% chance of drawing an orange marble and a 50% chance of drawing a white marble. What is the probability of choosing a purple marble? Express your answer as a percent.
a. 67% b. $33\frac{1}{2}\%$ c. 33% d. 17%
 $100 - 50 - 17 = 33$
- A movie company surveyed 1000 people. 229 people said they went to see the new movie on Friday, 256 said they went on Saturday. If 24 people saw the movie both nights, what is the probability that a person chosen at random saw the movie on Friday or Saturday?
a. 0.413 b. 0.437 c. 0.461 d. 0.483
 $256 + 229 = 485$
 $485 / 1000 = 0.485$
- A spinner is divided into three sections: red, blue, and green. The probability that the spinner will land on red is $\frac{2}{3}$. The probability that the spinner will land on blue is $\frac{1}{3}$. What is the probability of the spinner landing on green? Express your answer as a fraction in simplest form.
a. $\frac{2}{3}$ b. $\frac{4}{15}$ c. $\frac{11}{15}$ d. $\frac{1}{3}$
 $1 - \frac{2}{3} - \frac{1}{3} = 0$
- Events A and B are independent. Find the missing probability.
 $P(A) = \frac{2}{3}$
 $P(B) = 0.3$
 $P(A \text{ and } B) = 0.06$
a. 0.7 b. 0.24 c. 0.2 d. 0.3
 $\frac{2}{3} \cdot 0.3 = 0.2$



- Find the probability of getting the results shown on the spinners. Express your answer as a fraction in simplest form.



a. $\frac{1}{15}$ b. $\frac{1}{5}$ c. $\frac{1}{3}$ d. $\frac{1}{15}$
 $\frac{1}{3} \cdot \frac{1}{5} = \frac{1}{15}$

- Of 50 students going on a class trip, 35 are student athletes and 5 are left-handed. Of the student athletes, 3 are left-handed. Which is the probability that one of the students on the trip is an athlete or is left-handed?



a. 0.2 b. 0.5 c. 0.74 d. 0.8
 $32 + 3 + 2 = 37/50$

- The table shows the distribution of male and female students and left- and right-handed students in the math club. Find the probability that a female student selected at random is left-handed. Express your answer as a fraction in simplest form.

	Left-handed	Right-handed
Male	2	35
Female	6	36

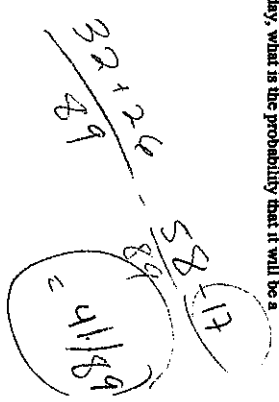
a. $\frac{3}{4}$ b. $\frac{1}{7}$ c. $\frac{1}{6}$ d. $\frac{7}{9}$
 $6/72 = \frac{1}{12}$

- The sections on a spinner are numbered from 1 through 8. If the probability of landing on a given section is the same for all the sections, what is the probability of spinning a number less than 4 or greater than 7 in a single spin?

a. $\frac{1}{2}$ b. $\frac{1}{8}$ c. $\frac{3}{8}$ d. $\frac{5}{8}$
 $1/8 + 3/8 = 4/8 = \frac{1}{2}$

- There are 89 students in the freshman class at Northview High. There are 32 students enrolled in Spanish class and 26 enrolled in history. There are 17 students enrolled in both Spanish and history. If a freshman is selected at random to raise the flag at the beginning of the school day, what is the probability that it will be a student enrolled in Spanish or history?

a. $\frac{41}{89}$ b. $\frac{41}{89}$ c. $\frac{17}{89}$ d. $\frac{58}{89}$
 $32 + 26 = 58$
 $58 - 17 = 41$
 $41/89$



11. Caleb and Drew are playing a game with a pair of dice. Caleb needs a sum of 5 or greater to win. What is the probability of winning on his next turn?

- a. $\frac{5}{6}$
- b. $\frac{2}{5}$
- c. $\frac{1}{6}$
- d. $\frac{2}{3}$

12. A spinner is divided into 10 equal parts and numbered from 1 through 10. What is the probability of spinning a number less than 6 or greater than 6 in a single spin?

- a. $\frac{9}{10}$
- b. $\frac{2}{5}$
- c. $\frac{4}{5}$
- d. $\frac{7}{10}$

13. A person is selected at random. What is the probability that the person was not born on a Monday? Express your answer as a percent. If necessary, round your answer to the nearest tenth of a percent.

- a. 80%
- b. 20%
- c. 85.7%
- d. 14.3%

14. What is the probability of rolling a 5 on the first number cube and rolling a 6 on the second number cube? Assume the number cubes are fair and have six sides. Express your answer as a fraction in simplest form.



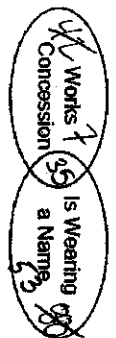
- a. $\frac{1}{36}$
- b. $\frac{1}{12}$
- c. $\frac{1}{56}$
- d. $\frac{1}{4}$

$\frac{1}{6} \cdot \frac{1}{6} = \frac{1}{36}$

15. At a school carnival one of the booths has 12 plastic ducks floating in a tub of water. Each duck has either a zero, one, or two printed on the bottom, indicating the number of prize tickets you receive if you select that duck. Six of the ducks have a zero on the bottom, three of them have a one printed on the bottom, and three of them have a two printed on the bottom. If you randomly select a duck, and then randomly select another duck without returning the first to the tub, what is the probability that you will receive four prize tickets?

- a. $\frac{1}{16}$
- b. $\frac{1}{22}$
- c. $\frac{1}{6}$
- d. $\frac{1}{44}$

16. Of 100 workers in a stadium, 42 work in the concession stands and 88 are wearing name tags. Of the workers in the concession stand, five-sixths are wearing name tags. Which is the probability that one of the workers is in concessions and is wearing a name tag?



- a. 0.3
- b. 0.87
- c. 0.95
- d. 1

$42 \times \frac{5}{6} = 35$

$\frac{35}{100} = 0.35$

19. The table shows the results of a survey of students in two math classes. Find $P(\text{more than 1 hour of TV} | \text{6th period class})$. Round to the nearest thousandth.

Did You Watch More Than One Hour of TV Last Night?

	Yes	No
3rd period class	11	6
6th period class	13	10

- a. 0.647
- b. 0.565
- c. 0.435
- d. 0.765

20. The table shows the results of a survey of college students. Find the probability that a student is taking a humanities class, given the student is male. Round to the nearest thousandth.

First Class of the Day for College Students	Male		Female	
	Humanities	Science	Humanities	Science
	70	50	80	80
	60	60	70	70

- a. 0.171
- b. 0.467
- c. 0.269
- d. 0.389

21. The probability that a city bus is ready for service when needed is 84%. The probability that a city bus is ready for service and has a working radio is 67%. Find the probability that a bus chosen at random has a working radio given the bus is ready for service. Round to the nearest tenth of a percent.

- a. 17.0%
- b. 9.8%
- c. 83.8%
- d. 12.5%

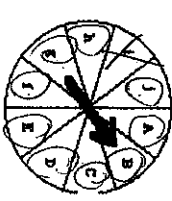
22. A class of 40 students has 11 honor students and 10 athletes. Three of the honor students are also athletes. One student is chosen at random. Find the probability that this student is an athlete if it is known that the student is not an honor student. Round to the nearest thousandth.

- a. 0.241
- b. 0.345
- c. 0.252
- d. 0.034



23. $P(Q) = 0.41$, $P(R) = 0.44$. Suppose Q and R are independent events. Find $P(Q \text{ and } R)$.

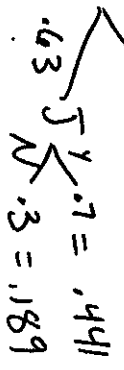
- a. 0.03
- b. 0.1804
- c. 0.85
- d. 0.0123



- a. 0.9
- b. 0.7
- c. 0.5
- d. 0.3

$.41 \times .44$

25. $.37 \cdot .75 = .2775$
 $.37 \cdot .25 = .0925$
 Chance of Diane



$.75 = \frac{2775}{10000}$
 $.25 = \frac{925}{10000}$
 $.7 = \frac{7000}{10000}$
 $.3 = \frac{3000}{10000}$

17. $(A \cup B)'$ = Everything not in A and B
 = 1, 3, 7, 9, 12, 18, 4

18. $B - A$ = Everything not in B, then take out those in A
 = 18 & 4

**Honors Math II Probability Unit Review
Answer Section**

MULTIPLE CHOICE

1. C
2. C
3. C
4. B
5. C
6. B
7. C
8. B
9. A
10. B
11. A
12. A
13. C
14. C
15. B
16. C
17. 1, 3, 7, 9, 12, 13, 4
18. 13, 4
19. B
20. D
21. B
22. A
23. B
24. A
25. 27.870